ALTERNATIVE DEVELOPMENT STANDARDS

Proposals to Reduce Housing Costs

Regional Working Committee on
Alternative Urban Development Standards

September 1991

92-03060/

Table of Contents

INTRODUCTION

1.0 Background 2

1.1 Regional Context 2
1.2 Provincial Context 3
1.3 Regional Working Committee 4

2.0 Standards Reviewed 5

2.1 Right-of-way Width 5
2.2 Lot Dimensions 10
2.3 House-to-house Separation 16
2.4 Elimination of Double Trenching 16
2.5 Elimination of Curbs 18
2.6 Alternatives to Stormwater Practices 18

3.0 Cost Savings 19

4.0 Alternative Standards and Housing Prices 20

5.0 Community Acceptance of Alternative Standards 20

6.0 Conclusion and Recommendations 21

ANNEXES

Introduction

Growing concern about the rising cost of housing prompted the Provincial government to adopt in 1989 the Policy Statement on Land Use Planning for Housing. The primary objective of the Policy Statement is to foster land use planning practices which can create the opportunity to provide an adequate supply of affordable housing types rather than impede it. In this context, the Regional Planning Department has been seeking ways, in cooperation with area municipalities, the building industry and the Province, to encourage the production of a variety of affordable, non- subsidized housing forms which can be built by the private sector. As a result of this consultation process, a working committee has been formed to respond to concerns about current municipal standards for residential subdivisions. Specifically, the costs of servicing and developing land have been increasing substantially for homebuilders and hence homebuyers.

The Regional Working Committee on Alternative Urban Development Standards was created to explore the feasibility of using alternative development standards to reduce housing costs and municipal engineering costs. Development standards govern the densities at which housing is built, the amounts of land available for different housing types, design specifications for streets, sidewalks and curbs, as well as requirements for parking and drainage.

The purpose of this report is to make local municipalities, utility companies and the development industry aware of some of the ways in which residential development standards can be revised to make housing more affordable. This report examines the context for the review of development standards, and outlines the Working Committee's findings and recommendations to area municipalities. The findings and recommendations presented here will offer guidance to municipalities by identifying ways to lower housing costs through more flexible zoning and subdivision standards.

The focus of this report is limited to the physical design standards which were identified by the Working Committee as providing the most cost savings while addressing the questions of feasibility, maintenance and impact on marketability. The alternative standards proposed in this document were developed in accordance with good engineering and planning principles. The alternative standards are not proposed as blanket standards to be used throughout Ottawa-Carleton but rather as guidelines to be adapted by municipalities in areas they identify as suitable. Implementing the recommendations of this report will create more flexibility for developers to bring on the market more affordable housing. It will be up to the municipalities and developers to decide how to take advantage of the proposed revised standards.

1.0 Background

1.1 Regional Context

Land cost and development costs[1] have been identified as among the most significant factors in the cost of housing. Between 1980 and 1989, land prices in Ottawa-Carleton increased by 200% reflecting a high demand for serviced land fuelled by a market demand for low density development, increased development charges, and more restrictive engineering and planning standards. Increasing the industry's ability to generate more housing per hectare would be one of the most effective way to reduce the cost of housing. Increased densities, less restrictive engineering standards such as reduced rights-of-way width and flexible planning standards for lot and housing size would help make housing more affordable.

The zoning and subdivision regulations that were used to guide traditional single-family developments may not be appropriate for the housing markets of the 1990s. Designed during a period of economic prosperity and strong household formation, development standards may have to adjust to a changing housing market. In the current economic climate, downsizing lots and houses would be one of the most effective way to make houses more affordable. By doing so, the housing industry would also be responding to demographic changes. While baby boomers have created a tremendous demand for increasingly larger sized family-oriented homes, it is expected that the housing market will see a trend toward smaller houses to meet the requirements of an increasing number of non-family households, smaller households and seniors.

Furthermore, the Region has an interest in revising standards which prevent more compact and efficient development. Compact development supports several goals of the Regional Official Plan, as presented in Section 1.2 of the Official Plan:

1. "Minimize the public cost of required services consistent with overall benefit."

Compact development can minimize public costs by reducing the development cost per unit, by making better use of existing infrastructure such as roadways and sewers.

2. "Protect important natural resources."

By reducing the requirement for new land for housing, compact development supports efforts to preserve agricultural land and environmentally sensitive areas.

[1] In the context of this report, development costs refer to the costs associated with developing an area of land for residential purposes including such costs as servicing costs, development charges, costs associated with the approval process and financial carrying costs.

3. "Provide a land use and transportation system which emphasizes convenience of movement between destinations..."

Compact development near the central area and other employment centres reduces travel between home and work, while compact development adjacent to transitway stations increases the convenience of public transit and encourages its use.

1.2 Provincial Context

As far back as 1973, the Province has been exploring ways of revising standards for the servicing of subdivisions as a way of reducing the cost of development. Over the years, recommendations were made with regard to the establishment of provincial maximum development standards and a periodic review of maximum standards. However, municipalities opposed this encroachment upon their local responsibility to set development standards.

A report prepared by the Ministry of Housing in 1976 and entitled "Urban Development Standards A Demonstration of the Potential for Reducing Costs", outlined various alternative standards which could contribute to reduced housing costs. The report demonstrated that cost savings in the order of $6,000 to $8,000 per lot (1976 values) were possible using standards already accepted in various parts of the Province. These savings resulted primarily from increased housing densities made possible through the use of alternative engineering standards, particularly smaller rights-of-way widths. The report concluded that there were significant savings through reduced engineering standards but more flexibility in planning standards such as setbacks and lot sizes were the key to substantial cost savings.

The Ministry of Housing has recently undertaken a study to determine whether alternative standards, used now by a number of municipalities in Ontario, contribute to higher maintenance costs and reduced performance. As well, the study will provide a cost analysis of alternative standards based on current servicing and land costs. It will also propose an implementation strategy so that alternative development standards may be more widely adopted in Ontario.

Based on a survey of 47 municipalities, preliminary findings of the study indicate that municipalities using alternative standards are not encountering significant operational problems or higher maintenance costs. As a result, these municipalities intend to continue using the alternative standards. The preliminary findings also indicate that the issues raised in the 1976 study are still relevant and that modified standards can help reduce housing costs.

The Ministry of Housing is supporting and following with interest the process initiated by the Regional Planning Department to examine the feasibility of modifying conventional urban development standards in Ottawa-Carleton. While the Province has encouraged the use of alternative development standards for sometime, they believe that the initiative should come from local governments. This is why the Province has shown so much support (see ANNEX E).

1.3 Regional Working Committee

In the fall of 1990, the Central, Regional and Eastern Public Utility Coordinating Committees[1] were approached by the Regional Planning Department to support the formation of a working committee that would explore alternative standards with the view of reducing housing costs. Each committee agreed to participate in the regional effort, in spite of the fact that all committees, including the Western Public Utility Coordinating Committee[2] which has since been dismantled, had been working for the past few years toward a standard right-of-way of 20 metres for new subdivisions throughout the Region. Nevertheless, there was sufficient interest in exploring alternatives in order to bring down the cost of housing.

The Regional Working Committee on Alternative Urban Standards was struck in January 1991, and includes representatives from the homebuilding industry, utility companies as well as regional and municipal engineering and planning departments. Annex A describes the Terms of Reference for the Committee and provides a list of its members.

The Committee identified engineering and planning standards for review which could be modified to provide the greatest housing cost savings. Two sub-committees were formed, one to examine engineering and utility standards and the other to determine the minimum dimensions needed for the building envelope looking at a reduced face-to-face separation, minimum frontage and lot dimensions.

---

1 The Central P.U.C.C. includes the City of Ottawa, RMOC-Transportation, RMOC-ESD, Bell, Consumers Gas, Rodgers Cable, MacLean Hunter Cable TV and Ottawa Hydro.

The Regional P.U.C.C. includes RMOC-Transportation, RMOC-ESD, the City of Ottawa, Kanata, Nepean, Gloucester, Ottawa Hydro, MacLean Hunter, Rodgers Cable, Consumers Gas, Bell.

The Eastern P.U.C.C. includes Cumberland, Gloucester, Osgoode, RMOC-Transportation, RMOC-ESD, Consumers Gas, Bell, Gloucester Hydro, Ontario Hydro and Rodgers Cable.

2 The Western P.U.C.C. included Nepean, Kanata, Goulbourn, Rideau, West Carleton, Bell, Consumers Gas, MacLean Hunter, Nepean Hydro, Kanata Hydro, Ontario Hydro, RMOC-Transportation, RMOC-ESD.

2.0 Standards Reviewed

The following standards were identified for modification. The feasibility of using these alternative standards has been reviewed by the Working Committee taking into account the factors of costs, maintenance, performance and marketability.

2.1 Right-of-way Width

Rationale for Existing ROW Width

The Working Committee limited its review of ROW width to local roads (excluding bus routes) because most residential developments are built on local roads.

A considerable percentage of land within a development is occupied by road allowances, the paved portion of which is often less than half of the ROW width. Presently in Ottawa-Carleton, standards for road allowances vary amongst area municipalities. The local ROW widths can vary between 16 to 20 metres, the 20 metre ROW width being the most prevalent.

Typically, a 20 metre ROW width includes a 9 metre pavement width and two 5.5 metre boulevards. The boulevard is the space between the curb and the edge of the ROW. The utilities such as gas, hydro, cable, telephone and street light cables are located in the boulevard along with street lights, hydrants, sidewalks and trees.

Partly to minimize the number of standards, a general consensus has been reached by the Utility Co-ordinating Committees, before the Working Committee was formed, on the use of a 20 metre ROW for a local road in both urban and/or rural developments. Other reasons given for increasing the local ROW width are as follows:

- to permit easy and safe installation and maintenance of services,
- to reduce the costs of maintenance and/or replacement of services,
- to allow additional services to be placed in the future,
- to allow each municipality to place additional sidewalks, streetscaping etc... in the future,
- to reduce the requirement for utility easements on private property,
- to increase the room for snow storage.

Modifications Proposed

The Working Committee analysed the 20 metre ROW against the minimum requirements for utility and service placements as well as requirements for removal and storage of snow, parking and emergency access. A primary restraint which was incorporated into the placement of utilities within the boulevard is a safety code standard requiring a separation of one metre between gas mains and the utilities located in a joint utility trench (Hydro, Bell, Cablevision and street light cables share the same trench).

It was concluded that adequate clearances between services and utilities could be accommodated within a 16 metre ROW width. An 8 metre pavement allows for parking on one side of the road as well as passage for emergency vehicles. A 4 metre boulevard on each side of the road provides enough room for the gas main and a common utility trench. The 4 metre boulevard also accommodates the 1.5 metre needed for snow storage. Trees can be planted either on the boulevard, or on private property.

A 16 metre ROW width assumes the following conditions:

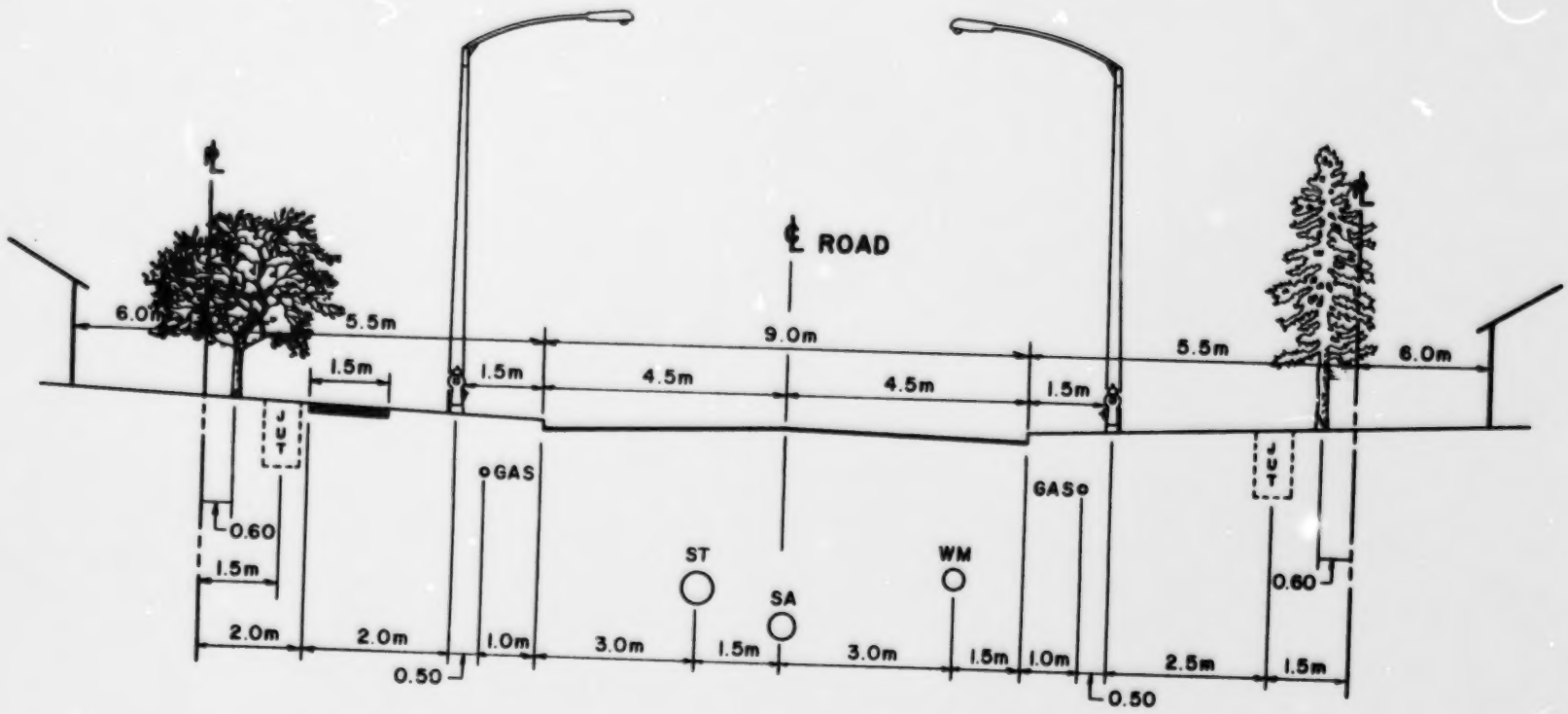
- an 8 metre pavement;
- two 4 metre boulevards;
- no sidewalks;
- parking on one side of the road;
- transformers on easements;
- a joint utility trench;
- utilities in conduits;
- underground servicing;
- front yard servicing;
- tree on ROW and/or private property.

In the past, some municipalities have required sidewalks on local roads. The majority of new developments no longer have sidewalks on local roads as pedestrians can feel safe to walk on local residential roads. The elimination of sidewalks can contribute to a significant capital and maintenance cost saving.

Maintenance, Performance and Costs

The proposed 16 metre ROW width meets the standard for emergency vehicles (fire equipment) and accommodates the existing snow removal equipment. However, the proposed 16 metre ROW and corresponding 8 metre pavement width will require approval from local fire departments. No reservations were expressed regarding garbage collection.

The 1.5 metre clearance for snow storage can be accommodated within the 4 metre boulevard. While the reduced ROW width does not affect snow storage in itself, the combined effect of a reduced ROW



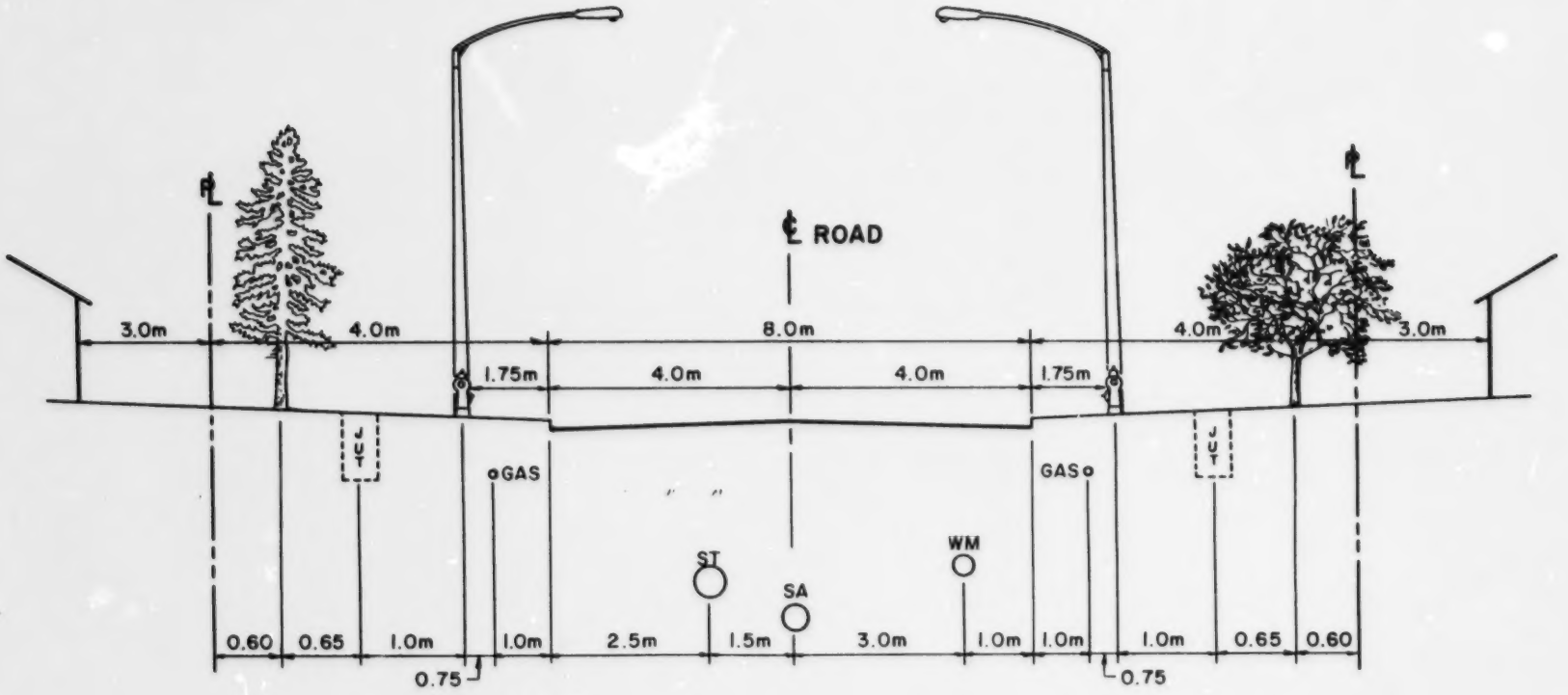
EXAMPLE OF 20 METRE R.O.W.

32 METRE HOUSE FRONT TO HOUSE FRONT SEPARATION

LEGEND

CITY OF OTTAWA CR-90

ST - Storm Sewer
SA - Sanitary Sewer
WM - Water Main
JUT - Joint Utility Trench



PROPOSED 16 METRE R.O.W.

22 METRE HOUSE FRONT TO HOUSE FRONT SEPARATION

LEGEND

ST - Storm Sewer
SA - Sanitary Sewer
WM - Water Main
JUT - Joint Utility Trench

width with reduced frontages, as suggested in Section 2.2, may, however, limit snow storage. On the other hand less snow will need to be removed and stored from an 8 metre pavement width than an 9 metre pavement width.

No significant maintenance problems or increased costs due to the reduced ROW width could be determined. In fact, the elimination of sidewalks and the reduced pavement width would decrease the initial construction cost as well as reduce the maintenance cost because there is not as much surface to maintain. As well, the use of conduits for utilities would facilitate the future replacement of services at the end of their expected life cycle. In addition, the 4 metres gained allows for more development thereby reducing land costs per unit.

Two subdivisions based on conventional standards were revised to include a 16 metre ROW width as well as other proposed modified standards. The cost analysis discussed in Section 3.0 reveals an important cost saving due primarily to a higher yield.

The marketability of a development with a 16 metre ROW width is considered good for three reasons. The first being that a reduced ROW width will increase the number of units which can be built on available land and permit lower priced houses. Secondly, the smaller road width could enhance the sense of community in a residential neighbourhood and provide more opportunities for neighbourly contacts. Finally, a smaller road width could help discourage speeding and reduce noise traffic, as drivers would have a stronger perception of being on a local residential road.

There may be some confusion about whether or not the Ontario Ministry of Transportation subsidies will apply to local roads with a ROW width less than 20 metre. The Ministry of Transportation encourages all proposed local streets to be a 20 metre ROW width. It is however, the responsibility of municipalities to determine the ROW width for local roads. All local roads of less than 20 metres approved by a Region under a plan of subdivision are eligible for Ministry subsidies.

2.2 Lot Dimensions

Rationale for Existing Standards

The emergence of single family housing as the predominant housing form in the 1970s and 1980s was a response to the demand of baby-boomers in their family formation years. The economic prosperity of the last two decades and the increased expectations of a consumer society have resulted in increased house sizes. The average finished area of a new single-family house in 1990 in Ottawa-Carleton was about 2,100 square feet[1].

Large houses generally occupy large lots. This is why single family development in the urban areas outside the greenbelt accounts for the major share of total land consumption in Ottawa-Carleton amounting to 75% of all residential land consumed in 1990[2]. At the end of the 80s, builders have responded to the high cost of serviced land by building big houses on smaller lots. In spite of this, lots remain quite large. A typical lot dimension for a single is 12 metres by 30 metres (40 X 100 feet) for an area of 360 square metres (4,000 square feet) with a front yard of 6 metres (20 feet), and a backyard of 7.5 metres (25 feet) and side yards of 1.2 metres (4 feet) [3].

The increase in the size of the average new house, and in the level of amenities it contains have increased the cost of housing accordingly. The demand for large suburban houses is expected to decline as household size decreases and the number of non-family households increase. As the cost of serviced land increases further, there will be a higher demand for smaller units on smaller lots.

---

1 Based on Brethour Research's marketing research experience.

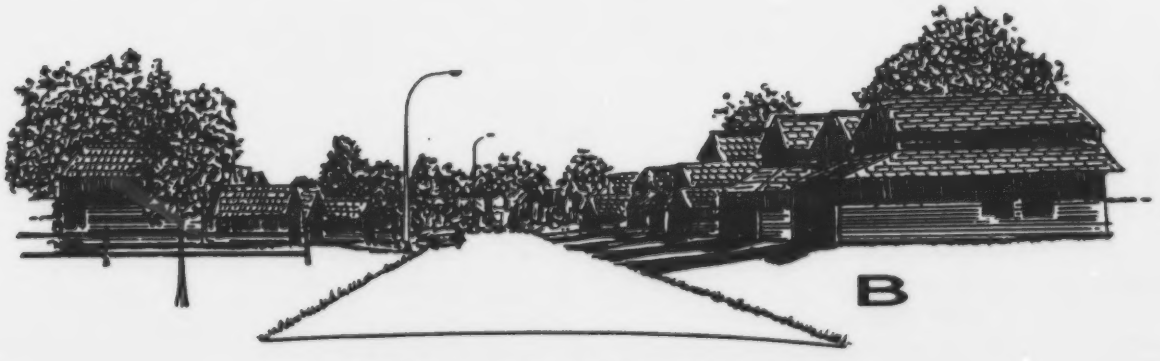
2 RMOC Planning Department, Vacant Urban Residential Land Survey, 1990 Update, June 1991.

3 RMOC Planning Department, Standards and Requirements in Road Allowances and Lot Sizes in the RMOC, August 1990, unpublished document.

A COMPARISON OF CONVENTIONAL STANDARDS (A) AND MODIFIED STANDARDS (B)

32M (DOOR TO DOOR SEPARATION)

20M R.O.W.



22M (DOOR TO DOOR SEPARATION)

16M R.O.W.

Proposed Standards

Affordable housing can be encouraged by reducing lot area, frontage and setback requirements thereby increasing the yield and distributing the cost of land across a greater number of units. Increased densities have traditionally resulted in multiple dwelling projects (i.e. street townhouses, stacked townhouses, apartments). Recognizing the demand for smaller units as well as the appeal of singles to consumers, the Working Committee is proposing smaller singles on smaller lots. As well, reduced lots for townhouses are proposed.

The Committee agreed on the feasibility of a lot dimension of 7.9 metres (26 feet) of frontage by 23 metres (75 feet) in depth for a single and a lot dimension of 5.8 metres by 23 metres (19 X 75 feet) for a street townhouse. These lot dimensions of 181.7 square metres (1,955 square feet) and 133.4 square metres (1,435 square feet) assume a house length of 11 metres (36 feet), a rear yard setback of 6 metres (20 feet), a front yard setback of 3 metres (10 feet) as well as sideyard setbacks of 1.2 metres (4 feet). The front yard is reduced to 3 metres to maximize rear yard open space. These setbacks are proposed as minimum setbacks. It is recognized that larger front yard or side yard setbacks will be required at intervals, to accommodate hydro transformers or to create a varied streetscape.

The size of the single-detached house has been reduced to 1,300 square feet. Building downsized singles on smaller lots would cater to the market for new single-detached housing with its advantages to consumers of privacy and outdoor space, at an affordable price.

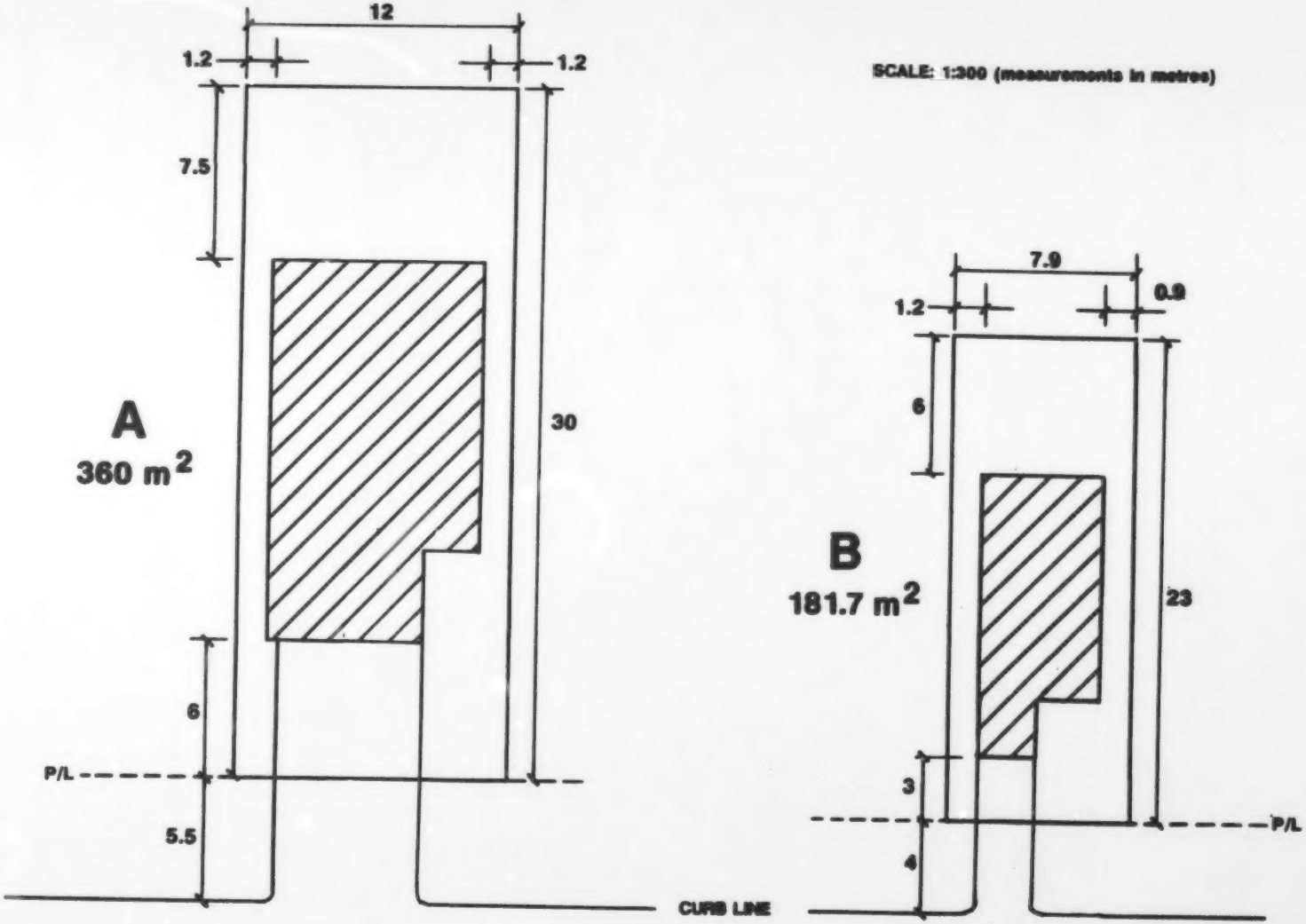
The proposed size for a single also applies, in this report, to the size of a townhouse. The Committee however, acknowledges that smaller townhouses could be built on lots with smaller than 6 metre rear yard setbacks.

The houses would be sited so that the driveways would be twinned to allow for the placement of street furniture (transformers, hydrants, etc...), snow storage, and parking on one side of the street. A single car garage or a carport can accommodate parking for one car. A second car can be parked on the driveway provided that a legal encroachment onto the ROW is allowed by the municipality. Another option would be to reduce the parking requirements in proximity to transit stations and offer only one parking space with no garage or carport. The provision of trees can be accommodated either on private property or on the boulevard.

As lot areas, frontage and setbacks are reduced, it becomes important to adjust the building and site designs accordingly to ensure privacy, variety and sufficient front-yard setbacks and frontage to accommodate a driveway, a garage or a carport and a parking space in the driveway. Parking on the lot should be accommodated without cars dominating the streetscape. Varied exterior designs and sitings of buildings through the use, for example, of zero lot line siting, or clustered site plans should be encouraged to improve the streetscape. Clustered siting could also be used to protect environmentally sensitive areas and enhance the urban forest.

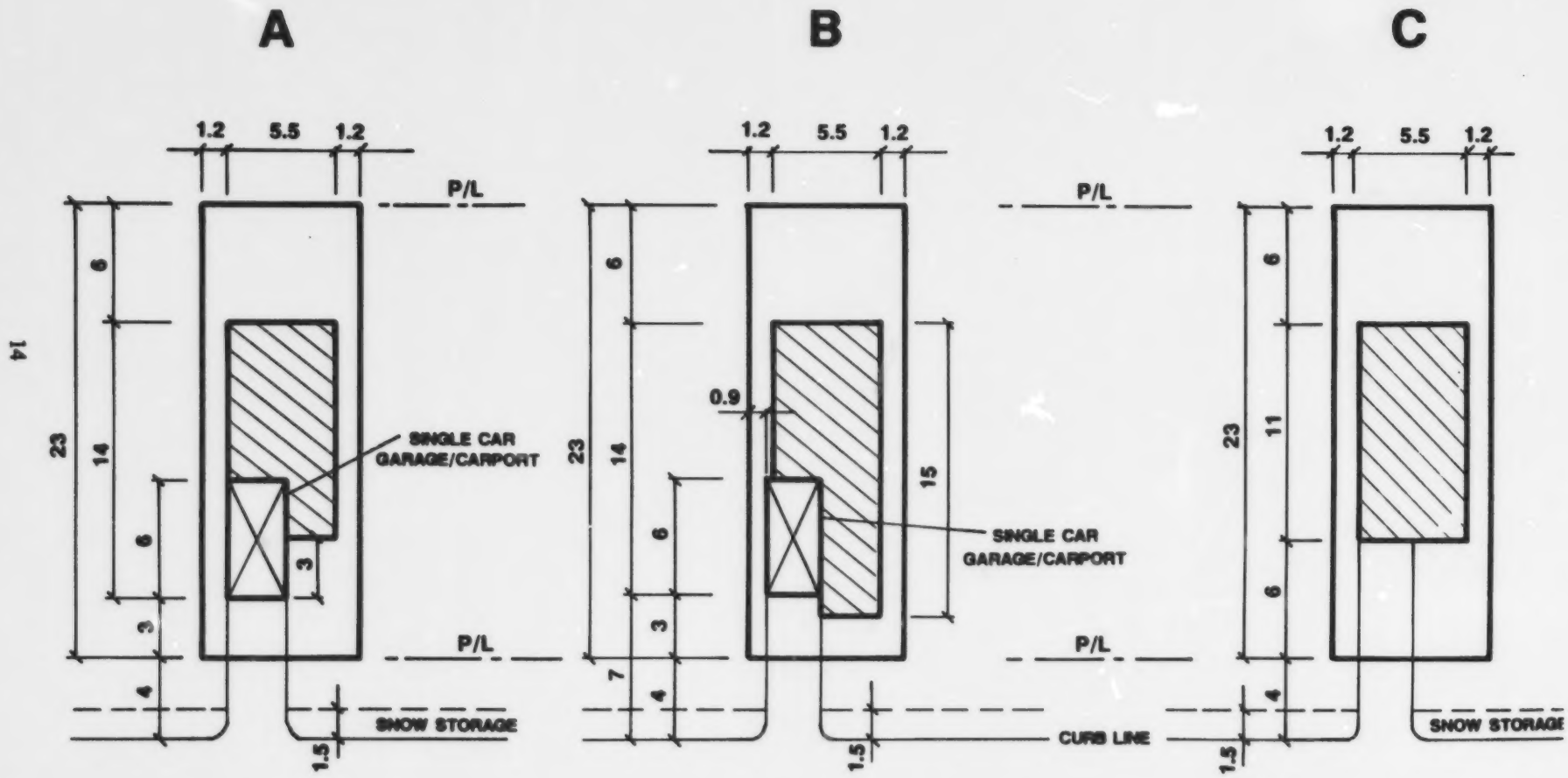
Unless units are carefully designed and sited on small lots, they will not offer the level of privacy and the usable open space that are major attractions of a detached house. Effectively designing small

A COMPARISON OF EXISTING (A) AND PROPOSED (B) LOT DIMENSIONS OF SINGLES



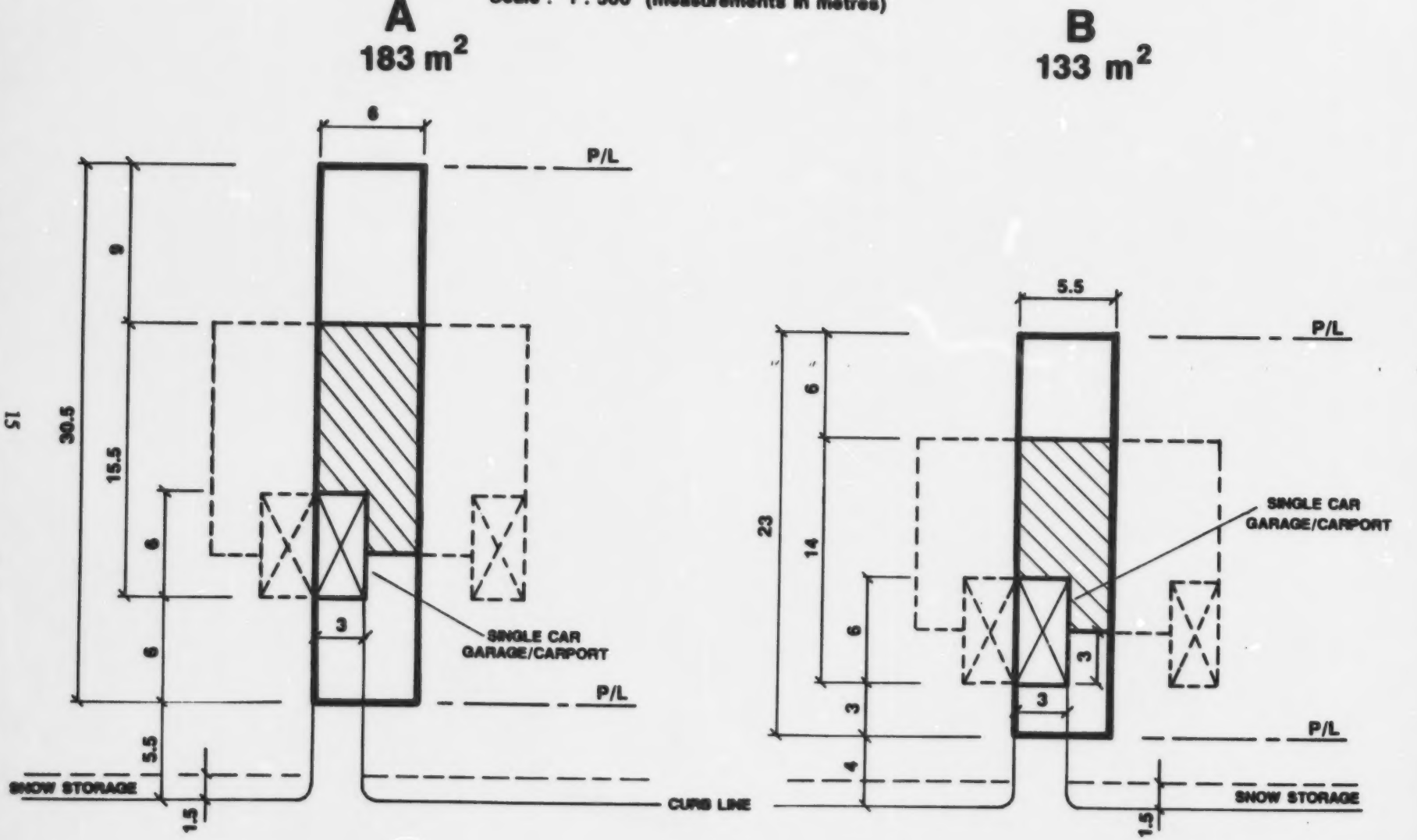
SMALL HOUSE / LOT OPTIONS

Scale : 1 : 300 (measurement in metres)



A COMPARISON OF EXISTING (A) AND PROPOSED (B) LOT DIMENSIONS OF TOWNHOUSES

Scale : 1 : 300 (measurements in metres)



15

lot development may become the challenge of the future as planners and developers learn to meet the demand for smaller units and to compensate for limited lot sizes.

Costs

Smaller lots, reduced frontage, and reduced setbacks can provide lower land and infrastructure improvement costs per unit due to the higher densities achieved by small lot development. Higher density allows land and improvement costs to be spread over a larger number of units. In addition, reduced frontage and front yard setbacks allows for less road pavement per unit, shorter utility runs, and overall reduced capital and some maintenance costs as discussed in Section 2.1.

2.3 House-to-house Separation

An important parameter to consider in reducing development costs and increasing densities, is the distance between housing units on opposite sides of the street. This distance is a summation of the road right-of-way width and house setbacks from the right-of-way.

When the standard front yard setback required by the municipality (6-7 metres) (20-23 feet) is added to the boulevard width of 5.5 metres (18 feet), the total effective setback from the curb becomes 11 to 12 metres (36-39 feet).

In Ottawa-Carleton, the traditional house-to-house separation is 32 to 35 metres (105-115 feet). This includes both the right-of-way and setbacks from the right-of-way.

By reducing front yard setbacks to 3 metres (10 feet), it is possible to reduce lot size while accommodating parking for one car in a driveway and preserving an adequate private outdoor living area in the backyard. The Working Committee estimates that a house-to-house separation of 22 metres (66 feet) (16 metre ROW & 3 metre front yard setbacks) would be feasible within acceptable standards for parking and traffic flow.

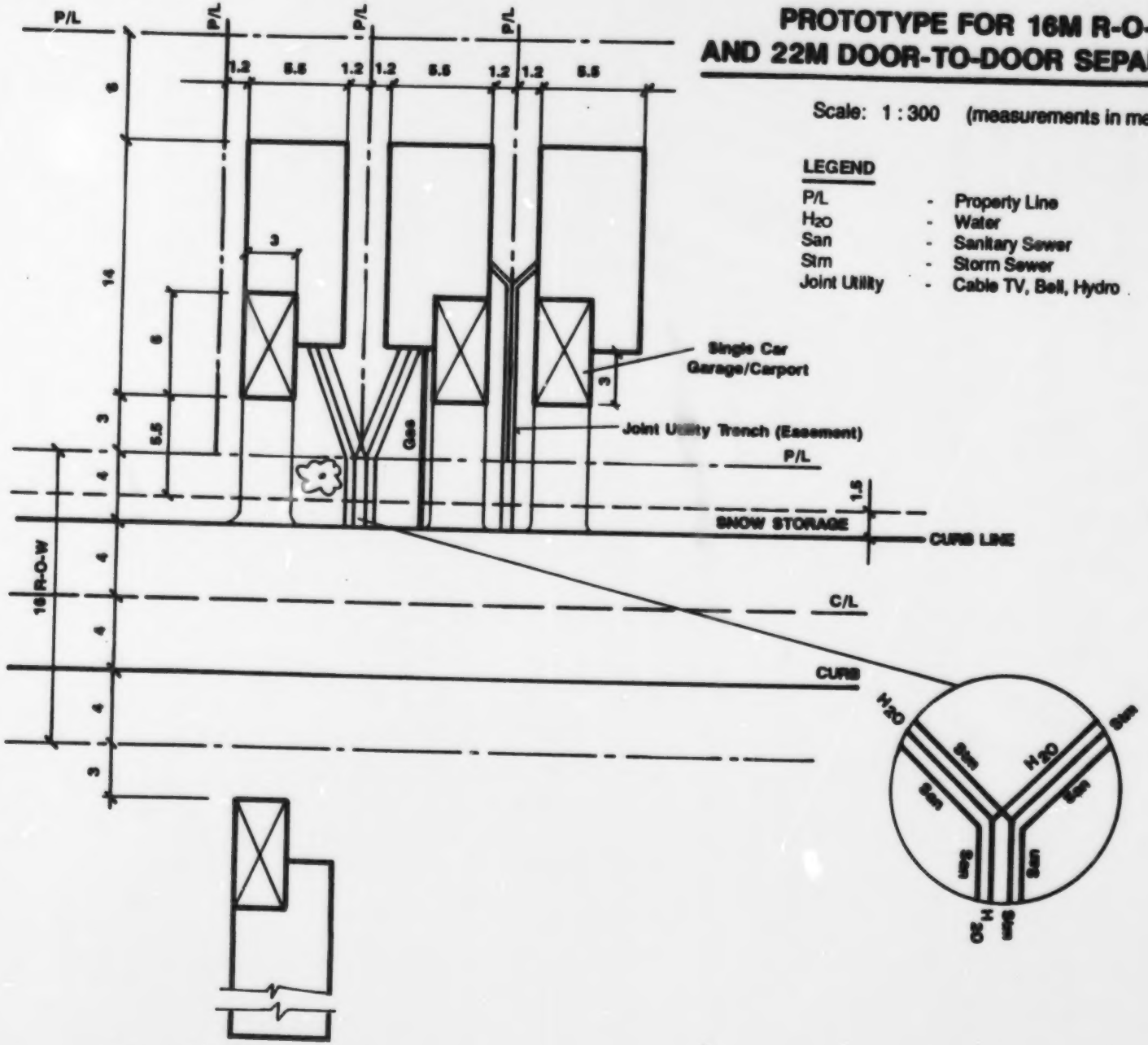
2.4 Elimination of Double Trenching

Usually, each housing unit is served by an individual trench for water, sewer and stormwater lines. The Working Committee agreed that the current system could be replaced by a single "y" shape trench serving two units. The single trench would include one water line, one stormwater line and two sanitary sewer lines (see drawing on p. 17).

The common trench would be aligned along the property line separating the two units. It would be a common trench beginning at the curb through the boulevard. It would then separate in a "y" shape

PROTOTYPE FOR 16M R-O-W AND 22M DOOR-TO-DOOR SEPARATION

Scale: 1 : 300 (measurements in metres)



LEGEND

P/L	-	Property Line
H_2O	-	Water
San	-	Sanitary Sewer
Stm	-	Storm Sewer
Joint Utility	-	Cable TV, Bell, Hydro

at the front property line and reach each unit through their respective front yard.

The Working Committee was satisfied that the single "y" shape trench could be used for either street townhouse or single- family development.

It was estimated that the elimination of double service trenching could save approximately $200.00 per unit. The use of a single trench would not only achieve capital cost savings, but it would also minimize interference with the road base and provide potential maintenance cost savings.

2.5 Elimination of Curbs

Local municipalities currently require the installation of curbs as part of any urban development project. The use of rolled curbs as a less costly alternative was discussed by the Working Committee. However, the real cost saving was identified in the elimination of curbs. The potential savings from eliminating curbs was estimated at $70.00 per linear metre of roadway.

Some Committee members expressed concern regarding the potential damage to the grassed area of the boulevard resulting from snow removal and parking. However, Nepean's experience in Burnbrook has so far indicated that the maintenance cost in this eleven year old subdivision is less than in areas with curbs. The only added initial expense was the placement of two to three feet of shoulder to protect the grass from being damaged by parked cars.

The elimination of curbs also has the added advantage to provide an environmentally sensitive approach to new development. It would allow the runoff to percolate through the grass thereby reducing the amount of storm runoff and contamination of effluents. It would also increase the ground water recharge.

2.6 Alternatives to Stormwater Management Practices

The level of protection required through municipal stormwater management practices has increased over time. The standards for minor storm systems (handled by storm sewers) has increased from a 2 year design criteria to a 5 to 10 year storm event. As well the standard for major storm systems (handled by surface drainage) has increased from the 25 year storm event to the 100 year storm event. With time, roadside ditches and sump pumps in houses have been replaced by storm sewers, street catch basins, rear yard basins and detention ponds.

The Working Committee identified the elimination of the requirement to provide an enclosed storm system as the greatest cost saving associated with urban residential development.

By using roadside ditches instead of storm sewers an identifiable cost savings of about $210 per metre of lot frontage can be realized. Further cost savings may be possible through increased yield from a parcel of land. This would be a result of reduced storm detention pond requirements or the elimination of the requirement for a water detention pond. Not only does the lot yield go up in this situation but the overall cost of construction goes down. The actual savings would be site specific but could be substantial. Detention ponds regularly cost $500,000.00 to one million dollars.

Although replacing an enclosed stormwater system by roadside ditches was identified as the greatest potential source of cost savings, the Working Committee considered the matter to be beyond its mandate. The issue of stormwater management practices transcends technical engineering requirements, and would be better addressed through the comprehensive environmental policy review of the Regional Plan. The Working Committee agreed not to investigate further this issue.

3.0 Cost Savings

To analyse the cost savings which could result from using the alternative standards proposed by the Working Committee, two subdivision plans were examined to test these standards: the Riddell Village subdivision in Kanata and the Hunt Club Park subdivision in Ottawa.

The sites chosen were treated as flat with normal soil conditions. The estimates ignore the presence of bedrock on the Kanata site for both conventional and revised plans. Thus, the results of the cost analysis are deemed to be fairly representative of typical sites being developed in Ottawa-Carleton.

A.J. Martin Surveying Limited was commissioned to redesign the proposed subdivisions, based on a 16 metre ROW width and reduced lot sizes and setbacks as outlined in sections 2.1 and 2.2. The elimination of curbs and the use of common service trenches were not specifically included in the redesign. The parameters used to redesign the two subdivisions are described in Annex B.

The use of a smaller local ROW width and smaller lot sizes increased the number of units by 64% in the revised Riddell Village subdivision and by 86% in the revised Hunt Club Park subdivision (see Annex C).

Detailed estimates of the costs to service the existing plans of subdivision and the revised plans were carried out by Cumming Cockburn Limited. The estimates indicate significant cost savings. The "per unit" servicing cost is reduced by $3,660 per unit for Riddell Village and $3,069 per unit for Hunt Club Park.

In addition to the savings in servicing costs, estimates indicate raw land cost savings of $3,599 per unit for Riddell Village and $5,435 per unit for Hunt Club Park. These savings resulted from increased densities made possible through the use of alternative standards as outlined above.

When the savings resulting from the elimination of curbs and the use of a common service trench are added to the servicing and raw land costs savings, the total cost savings per unit adds up to $7,756 for Riddell Village and $8,996 for Hunt Club Park. The detailed estimates of costs savings are outlined in Annex D.

4.0 Alternative Standards and Housing Prices

The extent of house price savings will depend on how much builders will be able and willing to pass on to the homebuyer. Since there is a highly competitive market for new housing, one would expect that any change in urban development standards which would reduce the cost to builders and developers, would result in a reduction in the price of a new house. Furthermore, the requirement to provide 25% affordable housing will give an additional incentive to pass on cost savings to homebuyers. Also, municipalities may wish to investigate ways to ensure that savings are passed onto homebuyers.

5.0 Community Acceptance of Alternative Standards

Community acceptance of small lot development and smaller ROW width depends on the developer/builder's attention to the quality of design.

The use of alternative standards does not imply a reduction in the standard of living or the sacrificing of good planning principles. On the contrary, it provides an opportunity to create neighbourhoods which are attractive with a strong sense of community. Smaller ROW width and front setbacks will help create more intimate neighbourhoods. A smaller road width may also discourage speeding, thereby making neighbourhoods safer. These features, in carefully designed neighbourhoods, would be attractive to homebuyers.

Communities with increased densities for single-family and/or row housing will help to accommodate the increasing number of smaller households in the urban areas outside the greenbelt. These communities will provide a choice of small ground-oriented units at affordable prices. Furthermore, compact development is consistent with the public's support for efficient use of public resources and environmental conservation.

Although many of these advantages can result from the use of alternative standards, some community residents may be concerned that the new standards could result in lower quality or less attractive neighbourhoods. Actively involving residents of adjacent developments would go a long way to ensure community acceptance. Citizens need to be well-informed on the nature and purpose of proposed changes. This involvement could take the shape of an ongoing municipal committee to review and keep development standards current.

6.0 Conclusion and Recommendations

The findings of the Working Committee demonstrate that the use of alternative engineering and development standards can generate important cost savings in the provision of new housing.

Compact development and a more efficient use of land are key factors in reducing the cost of housing. Opportunities lie in reduced ROW widths, reduced lot sizes and setbacks, the use of common service trenches and the elimination of curbs. These modified standards can lower costs by reducing the amount of land required per housing units, by distributing the cost among a greater number of units and by reducing the servicing costs.

The purpose of this report is to make area municipalities, utility companies and the development industry aware of ways to modify residential development standards to make housing more affordable. The alternative standards proposed here can be adapted by municipalities and developers to accommodate market and design requirements. It is meant to offer guidance to municipalities who wish to lower housing costs. The use of modified standards will provide more flexibility for the building industry to bring on the market more affordable housing. Therefore, the Working Committee suggests that area municipalities, utility companies and the development industry consider the following recommendations

1. **Reduce ROW width to 16 metres on local streets in areas identified as suitable by municipalities.**

2. **Revise zoning by-laws to permit smaller lots for single family-dwellings and townhouses and to reduce parking requirements.**

3. **Eliminate the requirement for double service trenching and allow for common service trenching for every two units.**

4. **Permit the elimination of curbs and sidewalks in areas identified as suitable by municipalities.**

The Working Committee also recommends that :

5. **A demstration project be undertaken to prove the cost saving and marketability of modified standards.**

6. **The Ottawa Regional Society of Architects be invited to participate in a subsequent phase of this project, namely to explore design alternatives for small lot development, and the innovative siting and design of small houses.**

7. **The RMOC undertake to examine the issue of stormwater management in the context of the environmental policy review of the regional official plan.**

8. **The Ottawa-Carleton Home Builders' Association cooperate with municipalities in the introduction of alternative development standards in Ottawa-Carleton (see letter of support in ANNEX F).**

9. **The Ministry of Housing complete their study on alternative standards and demonstrate leadership in implementing alternative development standards in Ontario.**

ANNEXES

Terms of Reference Regional Working Committee on Alternative Urban Development Standards

Purpose

Explore the feasibility of using alternative urban development standards to reduce housing costs and municipal engineering costs.

Work Elements

- Review studies undertaken in Ontario of alternative engineering and planning standards
- Identify standards which could be considered for modification in Ottawa-Carleton
- Evaluate the impacts of possible modifications to engineering standards
- Recommend modifications, if appropriate, to existing engineering and planning standards

Composition of the Committee

Chair: RMOC Planning representatives

Representatives from among the municipalities of Nepean, Cumberland, Ottawa, Gloucester, Kanata and Goulbourn;representatives of public utility companies the Builder's Council and RMOC Environmental Services.

Report

The Working Committee will report it's findings and recommendations to local municipalities and will seek input from municipal planners through the Committee on the Implementation of the Policy Statement on Land Use Planning for Housing.

Time Frame

This committee is to meet approximately every two weeks starting in January and complete its work by June 30, 1991.

Members of the Working Committee on Alternative Urban Development Standards

Pamela Sweet - Chairperson	(RMOC - Planning)
Pieter Selst	(Kanata Hydro)
Jean Audet	(MacLean Hunter Cable TV)
Carroll Paquette	(Consumers Gas)
Bill Watters	(Bell Canada)
David Anderson	(Rodgers Cablevision)
Carl Proulx	(Ottawa Hydro)
Rob Phillips	(Kanata)
Grant Lindsay	(Goulbourn)
John Honshorst	(Ottawa)
Greg MacDonald	(Ottawa)
Mike Wildman	(Gloucester)
Bob Streicher	(Nepean)
Lee Corey	(Nepean)
Malcolm Tanner	(Nepean)
Jack Stirling	(OCHBA)
Bob Wingate	(OCHBA)
Doug Smeathers	(OCHBA)
Chris Hartman	(OCHBA)
Joe Vincelli	(RMOC - ESD)
Marni Cappe	(RMOC - Planning)
Sylvie Grenier	(RMOC - Planning)

ANNEX B

Regional Municipality of Ottawa-Carleton
Ottawa Carleton Centre, Cartier Square
111 Lisgar Street, Ottawa, Ontario K2P 2L7

Planning Department
Tel. (613) 560-2053
Fax. (613) 560-6006

Municipalité régionale d'Ottawa-Carleton
Centre d'Ottawa-Carleton, Place Cartier
111, rue Lisgar, Ottawa, Ontario K2P 2L7

Service de l'urbanisme
Tél. (613) 560-2053
Télécopieur (613) 560-6006

April 11, 1991

File: 33.328

Mr. Jack Martin
H.J. Martin Surveying Ltd.
30 Selwin Crescent
Kanata, Ontario
K2K 1N8

Dear Mr. Martin:

Re: Concept Plan: Alternative Standards
Riddell Village, Kanata

Pursuant to your April 5, 1991, meeting with Mr. Chris Hartman of Richcraft Grilli, this will serve to direct your firm to prepare a concept plan for the residential portion of the Riddell Village project located in the City of Kanata. This work will be undertaken on behalf of the RMOC, for an upset fee of $1,000.00, and will respect the following parameters:

1. Principles to guide design/redesign of the roads on the plan are:

   - minimize use of cul-de-sacs;
   - retain the 26m right-of-way for collector roads which have been designated as bus routes (i.e. Shirley's Brook Road, Sandhill Road). The alignment of these roads may be changed slightly;
   - all other residential streets may have a reduced right-of-way of 16m;
   - McKinley Road has a fixed alignment and a fixed right-of-way.

2. Criteria for local streets considered for a 16m right-of-way width are:

   - cul-de-sacs have a maximum length of 100m and minimum radius of 19m based on a bulb (no hammerheads);
   - cul-de-sacs may be longer than 100m only if a second emergency access is provided (6m in width);
   - crescents should accommodate a maximum of 200 units;
   - local streets have an 8m pavement width;
   - curves on crescent should not exceed a 90 degree bend;
   - there are no sidewalks.

3. Parameters for land uses are:

- commercial uses should remain as proposed on the plan;
- freehold townhouse blocks have been shown on the base plan;

4. Criteria for the site, including locations of the building on the lot include:

- the lot dimensions for a single family unit are a 7.9m frontage by 23m depth; for a freehold townhouse they are 5.5m frontage by 23m depth;
- the frontyard setback for all units is 2m and the sideyards are 1.2m;
- the garage is setback 6m from the property line;
- a minimum of 7.0m at the property line must be retained for singles placed along a curve and a minimum of 5.5m at the property boundary must be retained for freehold townhouses place along a curb;
- the houses are sited such that driveways are twinned to allow for street furniture (transformer, hydrants, etc.), snow storage and parking on one side of the street;
- trees are to be placed on private property only, not in the boulevard;
- the terrain is assumed to be flat.

It is our understanding that Mr. Hartman has provided you with these parameters, as well as base plans, required for this work. Additional information to be shown on the concept plan includes the total yield (single vs freehold townhouses) and road length.

I trust this meets with your concurrence, and we look forward to an innovative design for the subject lands.

Yours sincerely,

PS

Pamela Sweet, MCIP
Director
Policy and Programs Division

Regional Municipality of Ottawa-Carleton
Ottawa-Carleton Centre, Cartier Square
111 Lisgar Street, Ottawa, Ontario K2P 2L7

Planning Department
Tel. (613) 560-2053
Fax. (613) 560-6006

Municipalité régionale d'Ottawa-Carleton
Centre Ottawa-Carleton, Place Cartier
111, rue Lisgar, Ottawa (Ontario) K2P 2L7

Service de l'urbanisme
Tél. (613) 560-2053
Télécopieur (613) 560-6006

April 30, 1991

File: 33.328

Mr. Jack Martin
H.J. Martin Surveying Ltd.
30 Selwin Crescent
Kanata, Ontario
K2K 1N8

Dear Mr. Martin:

Re: Concept Plan: Alternative Standards

Thank you for the work which you did on the Riddell Village plan in Kanata. Our committee on alternative standards will be reviewing it in detail on May 9, 1991.

We are now interested in redesigning another subdivision in order to compare the effects of the revised standards in two different locations. Mr. Hartman will contact you regarding the project to be developed by Richcraft Grilli, in the Hunt Club area of Ottawa. This letter will serve to authorize your firm to prepare a concept plan for an upset limit of $1,000, in accordance with the following parameters (as derived from the previous exercise):

1. Principles to guide design/redesign of the roads on the plan are:

   - minimize use of cul-de-sacs;
   - retain the 26m right-of-way for collector roads which have been designated as bus routes (i.e. Johnston Road, Blohm Drive). The alignment of these roads may be changed slightly;
   - all other residential streets may have a reduced right-of-way of 16m.

2. Criteria for local streets considered for a 16m right-of-way width are:

   - cul-de-sacs have a maximum length of 100m and minimum radius of 19m based on a bulb (no hammerheads);
   - cul-de-sacs may be longer than 100m only if a second emergency access is provided (6m in width);
   - crescents should accommodate a maximum of 200 units;
   - local streets have an 8m pavement width;
   - curves on crescent should not exceed a 90 degree bend;
   - there are no sidewalks.

3. Parameters for land uses are:

- parkland should remain on the blocks indicated (Blocks 546, 547, and 548);
- commercial uses should remain as proposed on the plan (Block 556);
- freehold townhouse blocks are shown on the base plan;
- social housing (rental) should remain as proposed on Blocks 555 and 557;
- daycare site should remain on Block 554;
- school site should remain on Block 549.

4. Criteria for the site, including locations of the building on the lot include:

- the lot dimensions for a single family unit are a 7.9m frontage by 23m depth; for a freehold townhouse they are 5.5m frontage by 23m depth;
- the frontyard setback for all units is 2m and the sideyards are 1.2m;
- the garage is setback 6m from the property line;
- a minimum of 7.0m at the property line must be retained for singles placed along a curve and a minimum of 5.5m at the property boundary must be retained for freehold townhouses place along a curb;
- the houses are sited such that driveways are twinned to allow for street furniture (transformer, hydrants, etc.), snow storage and parking on one side of the street;
- trees are to be placed on private property only, not in the boulevard;
- the terrain is assumed to be flat.

It is our understanding that Mr. Hartman has provided you with the base plans required for this work. Additional information shown on the concept plan includes the total yield (single vs freehold townhouses) and road length.

I trust this meets with your concurrence, and we look forward to an innovative design for the subject lands.

Yours sincerely,

Pamela Sweet, MCIP
Director
Policy and Programs Division

ANNEX C

Ottawa-Carleton Home Builders' Association
Association d'**Ottawa-Carleton**
des constructeurs d'habitations

203-30 Concourse Gate, Nepean, Ontario K2E 7S8
Tel.: (613) 723-2926 FAX: (613) 723-2982

April 24, 1991

Regional Municipality of Ottawa-Carleton
111 Lisgar Street
Ottawa, Ontario
K2P 2L7

Attention: Ms. Marni Cappe
Planning Department

Dear Sir:

Re: Revised Concept Plan
Riddell Village, Kanata

Please find enclosed originals of the revised concept plan for the Riddell Village project, as prepared by Jack Martin. Also find for reference purposes, the original concept plan for the site, as prepared by Coscan, and the plan of subdivision initially submitted by Terrace Investments.

The following will serve to summarize the results of Mr. Martin's work vis a vis residential yields and road length.

Land Use	Coscan Plan	Martin Plan	Difference
Singles	381	641	+260 (68%)
Townhomes			
Block 1	51	124	+73 (143%)
Block 4	33	41	+8 (24%)
Block 9	74	99	+25 (34%)
Block 13	87	136	+49 (56%)
Block 15	68	100	+32 (47%)
	313	500	+187 (60%)
Total Units	**694**	**1141**	**+447 (64%)**
Street Length	3270m	4845m	+1575m (48%)

.../2

PAPER RECYCLE RECYCLED PAPER

I trust this will prove adequate for the underground engineering subcommittee to review for costing purposes. In the interim, should you require additional information, please do not hesitate to contact me directly.

Yours truly,

Chris Hartman
Co-Chairman
Builder-Developer Council

CH/st

Ottawa-Carleton Home Builders' Association
Association d'**Ottawa-Carleton**
des constructeurs d'habitations

203-30 Concourse Gate, Nepean, Ontario K2E 7S8
Tel.: (613) 723-2926 FAX: (613) 723-2982

May 13, 1991

Regional Municipality of Ottawa-Carleton
111 Lisgar Street
Ottawa, Ontario
K2P 2L7

Attention: Ms. Marni Cappe
Planning Department

Dear Sir:

Re: Revised Concept Plan
Hunt Club Park, Ottawa

Please find enclosed an original of the revised concept plan for the Hunt Club Park project, as prepared by Jack Martin. You have earlier been provided with a print of the original concept plan for the site, as prepared by Richcraft Homes.

The following will serve to summarize the results of Mr. Martin's work vis a vis residential yields and road length.

Land Use	Richcraft Plan	Martin Plan	Difference
Singles	543	1190	+647 (120%)
Townhomes	320	418	+98 (31%)
Total Units	**863**	**1608**	**+745 (86%)**
Street Length (save and except Johnston Rd. and Blohm Drive)	4960m	6709m	+1749m (35%)

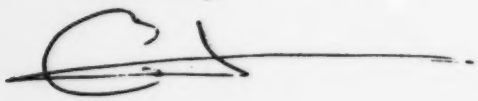
.../2

"The spokespeople for the housing industry in the Ottawa-Carleton Region"
"Les porte-parole de l'industrie de construction d'habitation dans la région d'Ottawa-Carleton"

Please be advised that the enclosed plan does not reflect the increased external sideyard setback of 2.0m (from 1.2m) as agreed to at the May 9 meeting of the Committee.

I trust this will prove adequate for the underground engineering subcommittee to review for costing purposes. In the interim, should you require additional information, please do not hesitate to contact me directly.

Yours truly,



Chris Hartman
Co-Chairman
Builder-Developer Council

CH/st

Cumming Cockburn Limited
Consulting Engineers and Planners

ANNEX D

May 8, 1991

No. 3545-LD-1

Regional Municipality of Ottawa Carleton
Planning Department
111 Lisgar St., 2nd floor
Ottawa, Ontario
K2P 2L7

Attn: Pamela Sweet,
Director of Policy and Program Division

Dear Ms. Sweet,

Re: Affordable Housing
Urban Development Standards Review

In response to your request at the last meeting of the Regional Working Committee on Alternative Urban Development Standards, held April 24, 1991, I have carried out a detailed estimate of the costs to service both the existing plan of sub-division for Briar Brook and the revised plan prepared by Jack Martin.

A table summary of these estimates is attached. It should be noted that the estimated costs for both plans are based on conventional engineering design standards with the exception of the local roads. For the "Revised Plan" the road width was estimated at 8.0 meter pavement width rather than the conventional 8.5 metres. The estimates also ignore the presence of bedrock on the sight which reduces the per lot servicing costs for both plans, but more importantly, removes a variable which could in itself impact on the difference in servicing costs from one plan to the other. In other words, the sites were treated as all earth sites for estimating purposes.

Comparing the "per unit" servicing costs from the attached estimate, indicates a net cost savings of $ 3,660.00 per unit.

.../2

1770 Woodward Drive, Ottawa, Ontario K2C 0P8 Telephone (613) 225-1311/Fax (613) 225-9868
Hull, Ottawa, Brockville, Kingston, Toronto, Waterloo, London

In addition to the savings in servicing costs there is a raw land cost savings of:

85 acres @ $75, 000.00 = $ 6,375,000.00

For 694 lots	$ 9,186.00 per unit
For 1141 lots	5,587.00 per unit
	$ 3,599.00 per unit (raw land cost savings)
	3,660.00 per unit (servicing cost savings)
For a total savings per unit of -	$ 7,259.00

I trust this is sufficient for your use.

Yours truly,

CUMMING COCKBURN LIMITED

Robert W. Wingate, P.Eng.
Director of Engineering

RWW/lgb

May 7, 1991

3545-LD-1

SERVICING COST COMPARISON
BRIARBROOK SUBDIVISION

SERVICING COMPONENT		EXISTING BRIARBROOK		REVISED BRIARBROOK	
Watermains	600mm diameter 400mm diameter 150-300mm diameter	$243,000.00 128,000.00 684,800.00		$243,000.00 128,000.00 968,000.00	
			$1,055,800.00		$1,339,000.00
Sanitary	Collector Local	$186,000.00 968,000.00		$ 246,000.00 1,282,000.00	
			1,154,000.00		1,528,000.00
Storm	Collector Local	$ 648,000.00 1,762,500.00		$ 808,000.00 2,373,750.00	
			2,410,500.00		3,181,750.00
Service Connections			832,800.00		1,369,200.00
Roads	Collector Local	$1,303,500.00 1,236,000.00		$1,303,500.00 1,871,100.00	
			2,539,500.00		3,174,600.00
Utility Trenching			764,400.00		1,012,200.00
Sanitary Pump Station and Forcemain			1,100,000.00		1,400,000.00
Shirley's Brook Improvement			250,000.00		250,000.00
Storm Outfall East of C.N.R.			500,000.00		500,000.00
March Road Intersection			250,000.00		300,000.00
SUBTOTAL SERVICING COST			**$10,857,000.00**		**$14,054,750.00**
Engineering 10%			1,085,700.00		1,405,475.00
TOTAL			**$11,942,700.00**		**$15,460,225.00**
Number of Units		694		1,141	
COST PER UNIT			**$17,208.50**		**$13,549.72**

Cumming Cockburn Limited
Consulting Engineers and Planners

June 3, 1991

File: 3545-LD-1

Regional Municipality of Ottawa-Carleton
Planning Department
Ottawa-Carleton Centre, Cartier Square
111 Lisgar Street, 2nd Floor
Ottawa, Ontario
K2P 2L7

Attention: Pamela Sweet
Director of Policy and Program Division

Dear Ms. Sweet:

Re: Affordable Housing - Urban Development Standards Review

In response to your request at the last meeting of the Regional Working Committee on Alternative Urban Development Standards, I have carried out a detailed estimate of the costs to service both the existing plan of subdivision for Richcraft's Hunt Club and the revised plan prepared by Jack Martin.

A table summary of these estimates is attached. It should be noted that the estimated costs for both plans are based on conventional engineering design standards with the exception of the local roads which is consistent with the costing used in the May 8th estimates for Briarbrook. For the "Revised Plan", the road width was estimated at 8.0 metre pavement width rather than the conventional 8.5 metres.

Comparing the "per unit" servicing costs from the attached estimate indicates a net cost savings of $3,069.00 per unit.

In addition to the savings in servicing costs, there is a raw land cost savings of:

135 acres @ $75,000.00 = $10,125,000.00

For 863 lots	$11,732.00 per unit
For 1,608 lots	6,297.00 per unit
	$ 5,435.00 per unit (raw land cost savings)
	3,069.00 per unit (servicing cost savings)
For a total savings per unit of	$ 8,504.00

I trust this is sufficient for your use.

Yours truly,

CUMMING COCKBURN LIMITED

Robert W. Wingate, P.Eng.
Director of Engineering

RWW/lgb

1770 Woodward Drive, Ottawa, Ontario K2C 0P8 Telephone (613) 225-1311/Fax (613) 225-9868
Hull, Ottawa, Brockville, Kingston, Toronto, Waterloo, London

June 3, 1991

3545-LD-1

SERVICING COST COMPARISON
HUNT CLUB SUBDIVISION

SERVICING COMPONENT		EXISTING HUNT CLUB		REVISED HUNT CLUB	
Watermains	400mm diameter 150-300mm diameter	$345,000.00 520,000.00		$345,000.00 800,000.00	
			$865,000.00		$1,145,000.00
Sanitary	Collector Local	$515,000.00 650,000.00		$ 520,000.00 1,000,000.00	
			1,165,000.00		1,520,000.00
Storm	Collector Local	$1,550,000.00 1,220,000.00		$1,720,000.00 1,875,000.00	
			2,770,000.00		3,595,000.00
Service Connections			1,035,000.00		1,930,000.00
Roads	Collector Local	$ 950,000.00 1,300,000.00		$ 945,000.00 1,925,000.00	
			2,250,000.00		2,870,000.00
Utility Trenching			700,000.00		940,000.00
Johnston @ Blohm Intersection			100,000.00		150,000.00
Hunt Club Intersection			150,000.00		200,000.00
SUBTOTAL SERVICING COST			**$9,035,000.00**		**$12,350,000.00**
Engineering 10%			904,000.00		1,235,000.00
TOTAL			**$9,939,000.00**		**$13,585,000.00**
Number of Units		863		1,608	
Cost per Unit			$11,517.00		$8,448.00
NET SAVING: $3,069 PER UNIT					

Ontario
Ministry of Housing
Ministère du Logement

Ontario Buildings Branch
2nd Floor
777 Bay Street
Toronto, Ontario
M5G 2E5

585-6651

October 4, 1991

Ms. Pamela Sweet
Director, Policy and Programs
Planning Department
Regional Municipality of Ottawa Carleton
Ottawa Carleton Centre, Cartier Square
111 Lisgar Street, Ottawa, Ontario
K2P 2L7

Dear Ms Sweet,

Thank you for keeping the Ontario Buildings Branch up to date on your study of alternative urban development standards. I found the report prepared by the Working Committee to be an excellent starting point which deserves serious consideration. I am also pleased that Michael de Lint of out Branch has been able to provide input related to our own work in this area.

It is very encouraging that municipalities such as Ottawa Carleton are undertaking a careful review of existing regulations and standards in an effort to facilitate the production of affordable and environmentally friendly housing forms. The more compact development facilitated by the alternative standards outlined in your report has many advantages such as reduced housing costs, lower public infrastructure costs and more transit oriented development.

The Working Committee has recognized the integral role of good design in housing development. In response to your request, the Branch will contribute $1,000 toward the design charrette which you are undertaking with the Ottawa Regional Society of Architects. The Buildings Branch has an ongoing interest in supporting building innovation and regulatory reform and looks forward to seeing the results.

I would like to commend you for your diligence. Please continue to keep the Branch up to date on your work.

Best wishes,

Judith Robertson
Director (Acting)

ANNEX F

Ottawa-Carleton Home Builders' Association
Association d'*Ottawa-Carleton*
des constructeurs d'habitations

OCHBA

203-30 Concourse Gate, Nepean, Ontario K2E 7S8
Tel.: (613) 723-2926 FAX: (613) 723-2982

September 18, 1991

Regional Municipality of Ottawa-Carleton
Planning Department
111 Lisgar Street
Ottawa, Ontario
K2P 2L7

Attention: Ms. Marnie Cappe, Manager
Housing Policy

Dear Sirs:

Re: Regional Committee on Alternative Urban Development Standards

---

On behalf of the Ottawa-Carleton Home Builders Association, this will confirm the Association's support for the Committees endeavours.

The Association fully supports this proactive and innovative approach to reducing the cost of housing within the Region, and would therefore encourage local municipalities to provide a similar level of support.

Yours truly,

Guy Whissel
President
OCHBA

cc: Chris Hartman, Richcraft Grilli
Doug Smeathers, Genstar Developments
Bob Wingate, Cumming Cockburn Limited

PAPER RECYCLE RECYCLED PAPER